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admitting the buckle. It became, therefore, an object of no small importance to society, to find out some new method of uniting the bit and leather, which at the same time that it would prevent any accidents likely to arise from the cause above mentioned, would also add to the convenience and facility of separating the bit from the leather, for the purpose of cleaning, changing, &c. That the present invention will completely answer both these ends, I am confident no one will deny who makes a fair trial of the patent bit or snaffle. The substance of the leather remains uninjured, and in its full force, and a moment's examination will convince any one, that the leather and bit may be separated for the purpose of cleaning, changing, &c. with the greatest facility and expedition.

If applied to military purposes, this invention will be found of particular utility for the purpose of securing, with greater quickness and safety, any number of horses that may be left standing together, when the cavalry are obliged (as they are on certain occasions) to quit their horses for a time.

Again, in hunting it is well known that sportsmen are frequently obliged to lead their horses over fences, &c. which do not afford a safe or convenient leap; for assisting them in which, nothing can be better adapted than the present invention; which by enabling them to loose the leather from the bit on either side, gives them a leading rein sufficiently long for the purpose above mentioned.

The numerous accidents which so frequently arise in the driving of horses in harness, either from negligence in not buckling the reins with sufficient care, or from the weakened state of the buckle, or decayed state of the leather, will also be prevented by the adoption of the present invention.

The principle of the invention, however, is not confined to the bridle, but is capable of being extended to various parts of the horses' harness in place of buckles, and will be found to add greatly to the strength, convenience, and security of the same. It may also be applied with particular advantage to the martingale.

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*On the Construction and Management of a Gigantic Rat-trap. From the Letters and Papers of the Bath and West of England Society.*

Rats are such destructive vermin, and so peculiarly mischievous to the farmer, that every attempt to diminish their numbers must be acceptable to the Agricultural Society of Bath. The number may not only be greatly diminished, but the species in a manner annihilated, by the following easy method.

Let the outhouse, or other apartment infested with rats, be carefully examined, and all the apertures by which they enter closed, except one or two, in the most convenient situations.

These may be enlarged a little, and rendered more commodious: then let a trap-door be fitted to each, with a long string attached to it, so that the doors may, with the greatest facility, be at any time closed in a moment. The chamber immediately becomes what may be very properly called a gigantic rat-trap; into which the vermin may in a few days be decoyed in the greatest numbers, by feeding, and suffering them to feed therein at stated times undisturbed. If books of receipts may be credited, the rat is as partial to the smell of anise, as the cat to that of valerian; it will, therefore, be advisable, not only to feed them regularly a certain number of days with that kind of food for which

they have shown the greatest avidity, but to impregnate it with their favourite odour. If there be thousands in the neighbourhood, they may thus be soon allured to the place of execution, and the work of slaughter commence at the most convenient opportunity for the farmer and his men.

The trap-doors being closed, it will be impossible for a single rat to escape; and his enemy being now fully in his power, nothing more is necessary than for the farmer to adopt the easiest and most merciful manner of putting them to death; for I would be merciful even to a rat that I had taken so much pains to decoy. Perhaps the easiest and best mode would be to let down a chafing-dish of lighted charcoal among them, into which some lumps of stone brimstone may from a distance be safely conveyed. The windows being now closed, it is presumed, that the whole would very soon be quiet.

Some caution may be necessary in entering the place. The windows and doors should first be thrown wide open, and a large fan or corn-winnow made use of to dissipate the noxious vapour of the brimstone, and the rats should all be thrown into water, or some other effectual method taken to prevent a revival, which might in some instances probably take place, were they to be all carelessly thrown upon a dunghill.

After the first grand execution, the sick, the stragglers, and the infirm, might for a few days be enticed, and the farm would thus be cleared for twelve months, with little trouble, and less expense.

At the end of the year, the same process might be again had recourse to. If this were to be adopted as a general practice throughout the kingdom on one particular day, and

no day could be better than Shrove Tuesday, a rat would be as great a rarity as any of Mr. Pidcock's wild-beasts.

Sparrows have been decoyed in the same way by suffering them to feed in a common stable, to the door of which a string was attached, and the birds imprisoned at pleasure; but it may be doubted, whether or no it would be wise to reduce the number of these to as great a degree, because it is probable, that the sparrow pays for his maintenance, by the destruction which he occasions to insects. It is possible indeed, that in the economy of nature, the rat may not have been made in vain; he may have his use, by devouring various substances tending to putridity and contamination of the atmosphere, which escape the vigilance of hogs and ducks, and other scavengers of the surface; but such is the negligence and folly of persons in general, there can be little expectation of a plan of this nature being so generally adopted, as to render it hereafter necessary for the society to offer a reward for encouraging the breed of rats.

It is on the contrary most likely, that even where this method may be adopted, the folly and precipitancy of those to whom its management must be entrusted, will be such as to render the scheme only partially successful.

*A table exhibiting the relative proportion of pure Alcohol containing in several kinds of wine, and some other liquors. By Wm. Thomas Brande, esq. F.R.S. From the Philosophical Transaction:*

WINE, &c.	Specific gravity after Distillation.	Proportion of Alcohol per cent by Measure.
Port.....	0,97616	21,40
Ditto.....	0,97532	22,30